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ECONOMIC DEFENSE INTELLIGENCE COMMITTEE

Intelligence Request No. 24  
Control No. 2231  
4 June 1956

SUBJECT

Review of Current Status of Technology in Radio and Television Transmitters and its Possible Military Applications.

REQUESTING AGENCY AND DATE

OSD, 25 May 1956

DEADLINE FOR RECEIPT OF INFORMATION

Open

PROPOSED USE

This study is to be used in connection with the proposed review in the US Government of COCOM Item 1517 in order to determine:

- 1) whether the definition of this item is adequate to effect the embargo of radio and television transmitting equipment having present or prospective military uses, and
- 2) whether it adequately covers a) equipment and components which incorporate technology or technological know-how directly or indirectly applicable to military equipment, and b) equipment which can be used as military end-items or components of such items.

REFERENCES

International List Item 1517 as adopted by COCOM in August 1954; and as revised by COCOM in August 1955 (See Tabs A and B, attached)

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State & DOC declassification & release instructions on file

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BACKGROUND

In August 1954, COCOM adopted a redefinition of International List Item 1517 which embargoed to Soviet Bloc destinations radio transmitters designed to operate at frequencies of 30 megacycles per second and above and specialized components and subassemblies, including power supplies for such transmitters. At that time, standard commercial AM, FM and TV transmitters operating at less than 250 megacycles per second and designed for fixed permanent installation were specifically excepted from embargo. Also excepted were standard commercial single channel land mobile communications equipment operating at frequencies of less than 180 megacycles per second.

On 25 January 1955 the US Delegation in Paris proposed to COCOM that measures be taken to ensure against decontrol of the more "strategic" types of transmitters specifically excluded from the definition of Item 1517.

A series of discussions on this proposal took place in COCOM and bilaterally between the US and UK in London in the spring of 1955. These discussions resulted in a redefinition of Item 1517. Since that time, concern has been voiced by various US Government agencies and in the intelligence community by the EIC Subcommittee on Electronics and Telecommunications that Item 1517 as presently defined represents inadequate coverage over transmitters and that the definition itself is too confusing to permit effective implementation.

SPECIFIC INFORMATION AND/OR ACTION DESIRED

1. A product study of military applications of television and of new techniques incorporated in commercial radio and television broadcast equipment which may be of military importance. The product study should include color television, very high definition television, and monitoring equipment for radio and television.
2. An intelligence study of the current status of Bloc technology in radio and television with particular reference to items which may be disclosed by the product study.
3. This request is circulated to EDIC members for information prior to consideration at the next EDIC meeting.

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Distribution:

Cat. B - (8-12, 14)

D - (All)

  
Executive Secretary

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TAB A

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Definition of International List Item 1517 as adopted by COCOM August 1954

"Radio transmitters and components (except (1) standard commercial broadcast amplitude modulation (AM), frequency modulation (FM), and television (TV) transmitters operating at less than 250 megacycles per second and designed for fixed permanent installation; and (2) standard commercial single channel land mobile communications equipment operating at frequencies of less than 180 megacycles per second) as follows:

- (a) radio frequency oscillators and amplifiers designed to operate at frequencies of 30 megacycles and above;
- (b) specialized components and subassemblies including power supplies;
- (c) transmitters incorporating such oscillators or amplifiers."

(NOTE: The United States Delegation in Paris proposed in COCOM, at the time the definition was adopted, that the following note be appended to Item 1517 for the purpose of ensuring against decontrol of the more "strategic" types of transmitters specifically excluded from the definition of Item 1517:

"It is understood that no member government should authorize export of equipment which the above definition specifically excludes, without prior consultation in COCOM, when the equipment:

- (a) appears to be readily adaptable to important military use, or
- (b) incorporates advanced technology that:

- (1) has important military applications and
- (2) is not believed to be in possession of the Soviet Bloc.

With respect to (b) (2) it will be presumed that the Soviet Bloc does not have the technology if the technology has been in Western commercial use for less than 5 years and there is no convincing evidence that the Soviet Bloc has it.")

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TAB B

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Definition of International List Item 1517 as revised by GOCOM in August 1955

\*Radio transmitters and components as follows:

- (a) transmitters or transmitter amplifiers designed to operate:
  - (1) at output carrier frequency between 108 and 156 mc/s, and/or
  - (2) with output carrier frequency above 216 mc/s;
- (b) transmitters, or transmitter amplifiers, designed to operate with output carrier frequency higher than 30 mc/s and designed to provide any of the following features:
  - (1) any system of pulse modulation other than amplitude-modulated television, frequency-modulated television, or phase-modulated television;
  - (2) two or more independent modulation channels on one radio frequency carrier;
  - (3) simultaneous output at more than one radio frequency carrier frequency;
  - (4) special facilities to give continuous operation (on any carrier frequency outside the internationally agreed broadcasting bands) in inter-connection with land-line telephone circuits or switchboards, e.g. voice-operated gain-adjusting circuits, automatic volume compression and expansion circuits, and automatic monitoring;
  - (5) rapid selection, by means of preadjusted tuning controls, between four or more radio frequency carrier frequencies in equipment designed for operation in commercial moving vehicles; or between two or more radio frequency carrier frequencies in equipment not so designed;
  - (6) modulation bandwidth greater than 4 kilocycles at any carrier frequency within any of the bands 30 to 41 mc/s, 68 to 87.5 mc/s, 100 to 108 mc/s;
  - (7) carrier output power, for static and transportable sets, greater than 100 watts, and for mobile sets greater than 25 watts, at any carrier frequency within any of the bands 30 to 41 mc/s, 68 to 87.5 mc/s, 100 to 108 mc/s;
  - (8) special facilities for uses other than sound or vision broadcasting, mobile communications, fixed headquarters station for mobile services, or a mobile sound or vision link to a main broadcast station;

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TAB B (Continued)

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- (c) mobile communications equipment operating at carrier frequencies above 30 mc/s, or headquarter stations therefor, other than those types designed for and already in use in Western countries for normal commercial civilian purposes;
- (d) transmitters, or transmitter drive oscillators, designed to provide a multiplicity of alternative output carrier frequencies controlled by a lesser number of piezo-electric crystals.

(Note: This covers equipment working below 30 mc/s as well as above. Sets incorporating crystal-economizing circuits are mainly required for military purposes (e.g. airborne and tank communications). The output frequency of the drive oscillator is not necessarily the same as that of the complete transmitter, but is often a sub-multiple of it, which is the reason for omitting a lower frequency limit.)

- (e) components and sub-assemblies, including modulators and modulation amplifiers, specially designed for use in transmitters covered by sub-items (a), (b), (c) or (d) above.

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